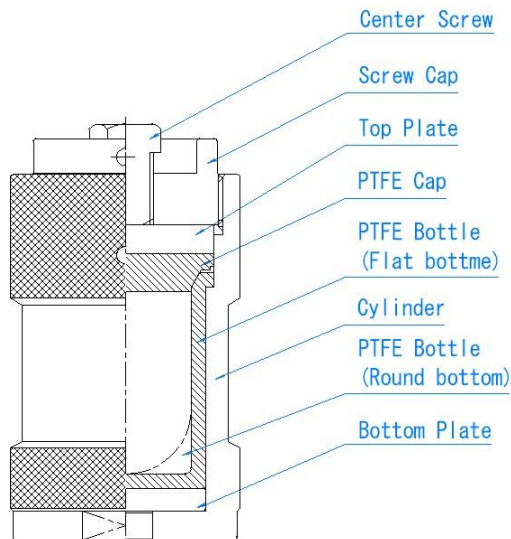


Instruction Manual

Model: RDV-25 / 50 / 100 / 250 / L320

Rotary Sealed Decomposition Vessel

Thank you for purchase our Rotary Sealed Decomposition Vessels, which help you in digesting any intractable sample rapidly by means of acid pressure decomposition. Read this instruction manual for a proper use keeping it beside the vessels.



Sealing procedure

Take a sample into a PTFE Bottle and add a suitable acid or mixture of acids. Put a PTFE Cap onto the bottle and place them into a Cylinder. Put a Top Plate and close the vessel with a Screw Cap by hand tightening. Fix the bottom of the cylinder with a vise. (Use Detachable Handle for the RDV-L320.)

【Tightening method of the Center Screw use the torque wrench】

1. At the time of the first use of the PTFE Cap & Bottle.
 - Model RDV-25 → Torque value 36 N.m (Width across flats of the Center Screw is 19 mm)
 - Model RDV-50 → Torque value 38 N.m (Width across flats of the Center Screw is 19 mm)
 - Model RDV-100 / 250 / L320 → Torque value 40 N.m (Width across flats of the Center Screw is 24 mm)
2. After the second of the PTFE Cap & Bottle at the time of use.
 - All model → Torque value 20~24 N.m

【Tightening method of the Center Screw use the box end wrench】


1. At the time of the first use of the PTFE Cap & Bottle.


- All model → Tighten a Center Screw until feel that torque suddenly stands up. After, retighten it so that a Center Screw does not loosen.
- 2. After the second of the PTFE Cap & Bottle at the time of use.
 - All model → Every excessive tightening on the Center Screw during usual use may shorten the lifetime of the vessel. Please refer a torque value.


Caution *1:  Please never tighten Screw Cap with a tool tightly.

Opening procedure

Allow to cool the vessel down to room temperature. Turn the Center Screw anticlockwise before loosening the Screw Cap. Remove the Screw Cap and take the PTFE Bottle by pushing up the Bottom Plate inside the Cylinder. Open the PTFE Cap and take out the solution.

Caution *2:  Always wear safety glasses, acid-resistant gloves, heat-resistant gloves and other appropriate protection during operations.

Caution *3:  Do not open the vessel until it cools down.

Caution *4:  The operation of opening shall be done in a draft chamber, a glove box and a well ventilated.

Warnings

- Maximum operating temperature: 230 °C ※ 200 °C: RDV-L320
- Maximum operating pressure: 15 MPa ※ 4.5 MPa: RDV-L320
- Maximum charge of a sample should not exceed 500 mg in dried weight. Begin a preliminary test with smaller amounts of a sample and acids before regular decomposition.
- A hydrothermal reaction or solvothermal reaction is not vigorous reaction, but the quantity is 70% or less based on the amount of charged.
- If a large amount of reaction gas may generate, preliminary digestion without the PTFE Cap shall be done in a well-ventilated place.
- Please use explosion-proof equipment for heating.
- Do not expose directly the vessel to a hot jet in a circulatory oven.
- Prohibition for use of explosive samples etc.
- Try not to use perchloric acid. Use it at a minimum, if necessary.
- Never charge explosive materials.
- PTFE Cap & Bottle is a consumption article. When there are deformation and a damage, promptly exchange for a new article.
- Display a sign such as “Heat hazard” to call attention to those who around the oven or

the hot vessel in heating period.

- Even if Cylinder temperature fell, internal pressure may remain. Always wear safety glasses, acid-resistant gloves, heat-resistant gloves and other appropriate protection during operations.
- Be aware of sharp edges of metallic parts of the vessel.
- The parts except us must not use it.



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